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The Relationship Among Parenting Styles, Home Environments, and Children's Curiosity

Amy Baldwin Crockett
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To the Graduate Council:

I am submitting herewith a dissertation written by Amy Baldwin Crockett entitled "The Relationship Among Parenting Styles, Home Environments, and Children's Curiosity." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

Anne McIntyre, Major Professor

We have read this dissertation and recommend its acceptance:

Richard Saudargas, Robert Wahler, Jo Lynn Cunningham

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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THE RELATIONSHIP AMONG PARENTING STYLES, HOME ENVIRONMENTS, AND CHILDREN'S CURIOSITY

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Amy Baldwin Crockett

December 1995

DEDICATION

This dissertation is dedicated to my husband,

Stephen Campbell Crockett,

who helped me remember throughout graduate school

what is most important in life.

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I would like to thank my major professor, Anne McIntyre, Ph.D., for the opportunity and encouragement to pursue this dissertation, and for her guidance and support. I would also like to thank the other committee members, Robert Wahler, Ph.D., Richard Saudargas, Ph.D., and Jo Lynn Cunningham, Ph.D., for their comments and assistance throughout this process. For his invaluable assistance with statistics, I would like to thank John Lounsbury, Ph.D., who agreed to assist in this project although he was not on the committee. Thanks also to my friends in graduate school, who helped me remember to relax and enjoy myself in the four years we were together. I wish also to thank my family, who gave moral support and encouragement when I most needed it. Finally, I want to thank my husband, Stephen Crockett, who helped me in innumerable ways to stay focused, positive, and motivated, even when it seemed impossible to complete this degree.

ABSTRACT

In this research, the relationships of parenting styles, attitudes, and child-rearing environments with children's curiosity, the relationships of parenting styles and attitudes with child-rearing environments, and the indirect relationships of parenting styles and attitudes with children's curiosity through child-rearing environments were explored. Seventy-four parent-child dyads were recruited from area day care centers. Oldest children between 3 and 6 years old were studied. Parents were administered a demographic information questionnaire, the Home Observation for Measurement of the Environment Inventory--Revised (HOME), and the Child-Rearing Practices Report (CRPR). Children were administered the Peabody Picture Vocabulary Test--Revised (PPVT-R), the Complexity Task, the Preference for the Unknown Task, the Drawer Box Task, and the Curiosity Box Task. Parenting styles were characterized as authoritative vs. authoritarian, and attitudes were represented by parental affect and enjoyment of the parental role. Results indicated that no parents endorsed the authoritarian style. The somewhat authoritative parenting style, as opposed to the strongly authoritative parenting style, was associated with higher curiosity in children. Attitude alone was not related to curiosity. The strongly authoritative parenting style, as opposed to somewhat authoritative parenting style, was associated with child-rearing environments that included high stimulation of learning and exploring through materials and experiences; encouragement of maturity and autonomy; and less physical, more communication-oriented punishment for children. The same aspects of the child-rearing environment were significantly related to children's curiosity: More positive, stimulating, autonomy- and communication-enhancing child-rearing environments were associated with higher curiosity in children. These results suggest that parenting styles and child-rearing environments make important contributions to children's curiosity, which has been

demonstrated in previous research to be a useful marker for healthy adjustment and development. Future research with a longitudinal design would further elucidate the interactions among parenting styles, child-rearing environments, and children's curiosity. Using this model, researchers may identify vulnerability for developmental difficulties and may implement corrective measures in many areas of influence on a child's development. Resilience and strengths may be augmented to ensure healthy adjustment of children throughout the developmental cycle.

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CHAPTER I

Introduction

Healthy childhood development is of great concern to many researchers, clinicians, teachers, parents, and other adults who interact with children. Processes and elements that have an impact on children have been studied at length so the relationships among these elements and childhood development can be better understood. Different aspects of the children's development have also been studied in depth to learn what elements are most important and conducive to healthy adjustment. It is beneficial to consider processes that impact children as well as studying what aspects of children's personalities are most affected. In addition, learning about the reciprocal interaction among these processes may help us to understand the processes that augment or impede healthy adjustment. These relationships are explored in this study.

Conceptualization and Definition of Parenting Styles

Parental attitudes and child-rearing styles have been recognized as important influences on the development of a child's personality (Schaefer & Bell, 1958). They have been demonstrated to be related to many aspects of children's behavior, including children's social assertiveness, social responsibility, cognitive competence (Baumrind, 1971; Brown, 1989), social adjustment and peer relationships (Baumrind, 1967; Baumrind & Black, 1967; Feldman & Wentzel, 1990), academic achievement (Metcalf & Gaier, 1987), self-esteem (Anderson & Hughes, 1990; Buri, Louiselle, Misukanis, & Mueller,

1988), locus of control (Wichern & Nowicki, 1976), behavior problems (Becker, Peterson, Luria, Shoemaker, & Hellmer, 1962), personality dysfunction and psychiatric disorders (Weissman et al., 1987), and many other behaviors. Parenting styles are important contributors to children's development.

Researchers have struggled to find useful, workable definitions of specific styles in order to study their effects. Diana Baumrind, in particular, has written a number of articles about the conceptualization of parenting styles. She developed a system to differentiate among patterns of parenting (Baumrind, 1968, 1971). This system has generally been accepted as the best conceptualization of parenting styles available. The main patterns include authoritarianism, authoritativeness, and permissiveness. Each pattern includes an aspect of four criteria: parental control, parental maturity demands, parent-child communication, and parental nurturance. Many researchers have studied the relationship between these styles and childhood behavior and have concluded that authoritative parents are more flexible, reasonable, warm, and understanding than the other types of parents. Authoritarian parents, on the other hand, tend to be stricter, more punitive, demanding, manipulatively controlling, and less warm and involved than other parents. Permissive parents attempt not to make any demands on their children; are not controlling, punitive, or strict; and allow children to regulate their own activities without much guidance or encouragement. From her research, Baumrind (1967) concluded that authoritative parents have children who are likely to be more self-reliant, self-controlled, exploratory, and content than other parents. Children of authoritarian parents, on the other hand, are more likely to be discontented, withdrawn, and distrustful. Baumrind

found that children of permissive parents tend to be the least self-reliant, exploratory, and self-controlled of all types. She provided empirical evidence, then, that certain types of parenting are less conducive to healthy development than is the authoritative style.

Some researchers have been dissatisfied with the Baumrind typology because her definitions do not allow for the consideration of parental control and maturity demands separate from parental warmth and involvement (Rollins & Thomas, 1979). Indeed, a number of researchers have used the criteria Baumrind (1968) considered important, but they have analyzed them separately instead of considering all of them together. For example, Rickel and Biasatti (1982) considered two dimensions of parenting: restrictiveness (ranging from restrictive to permissive) and nurturance (ranging from rejecting to nurturant). Trickett and Susman (1988), too, kept the criteria separate. Their dimensions included autonomy/control and nurturance. However, not all of Baumrind's criteria were considered in these studies. To improve the comprehensiveness and usefulness of parenting style definitions, Kochanska, Kuczynski, and Radke-Yarrow (1989) have developed a system that includes all of Baumrind's criteria: parental control, parental maturity demands, parent-child communication, and parental nurturance. Their conceptual definitions were based on Baumrind's work but were not developed from direct observational research, as Baumrind's original styles were. The typology is two-fold and includes an authoritarian/authoritative dimension and a negative affect/enjoyment of the parental role dimension. Permissiveness is not included in this typology. The authoritarian pattern involves parents' endorsement of physical punishment, verbal reprimands, and prohibitions; discouragement of the child's emotional expression and of

verbal give-and-take between parent and child; emphasis on punishment and fear of external consequences of wrong-doing; and strict supervision of the child. The authoritative pattern includes open communication between parents and the child regarding both positive and negative emotions, appreciation of the child's accomplishments, fostering of the child's individuality and responsibility, recognition of the child's rights in family decisions, use of inductive methods to guide the child rather than coercive ones, and emphasis on discussing misbehaviors together with the child. The negative affect pattern involves the parents' irritability and negative emotions toward the child, and the enjoyment of the parental role pattern involves the parents' feelings about the experience of being parents and of child-rearing responsibilities. The first dimension includes the first three of Baumrind's criteria (parental control, parental maturity demands, and parent-child communication) and closely resembles the patterns she developed and defined. The main difference between the definitions of Kochanska et al. and Baumrind involves the negative affect/enjoyment of the parental role dimension, which reflects Baumrind's fourth criterion, parental nurturance. Kochanska et al. were successful in answering the concerns of previous researchers by developing a comprehensive system that includes the criteria considered important in definitions of parenting styles and also allows the separate consideration of parental warmth and involvement.

For the purpose of their study, Kochanska et al. grouped negative affect and enjoyment of the parental role into one subscale called affectiveness. They used a well-known self-report instrument to operationalize their dimensions. Called the Child-Rearing Practices Report (CRPR), it was developed by Jean Block (1965) to assess parental

attitudes and child-rearing styles. It is a Q-sort technique that has been used successfully in many areas, including the comparison of parents from physically abusive and non-abusive families (Trickett & Susman, 1988), the examination of cross-cultural variations in child-rearing (Block, 1973), and the differentiation between parents of popular and rejected children (Dekovic, Janssens, & Gerris, 1991). Kochanska et al. used the CRPR to measure the correspondence between self-reported child-rearing attitudes and practices and actual child management and found that the different patterns were indeed related to differences in parenting behaviors. Kochanska (1990) replicated this study and found that the self-reported parenting styles differentiated between the behaviors of normal and depressed mothers and that the importance of the subscales as predictors of behavior was a function of the group in which the parent was placed. Child-rearing philosophy was a more important predictor of behavior for normal mothers, whereas affective attitude toward the child was more important in the behavior of depressed mothers. By demonstrating that the subscales were related to actual parental behaviors, Kochanska (1990) and her associates (Kochanska et al., 1989) confirmed validity of the CRPR and the subscales and demonstrated that the CRPR is a useful tool for the measurement of parenting styles.

Conceptualization and Definition of the Child-Rearing Environment

Parenting styles, attitudes, and behaviors have generally been studied either in terms of how they are related to parental mental health or in terms of their relationship to children's development. In addition, parenting behaviors have been conceptualized as being related to the whole child-rearing environment in which the child lives. The addition

of this context in studying parenting styles has been very useful in assessing risk potential for children's developmental difficulties and in identifying factors that contribute to resilience and healthy adjustment in high-risk children (Garmezy, 1981; Garmezy & Streitman, 1974; Garmezy & Tellegen, 1984). Caldwell (cited in Caldwell & Bradley, 1984) provided an excellent definition of the important elements of the child-rearing environment in their list of the characteristics of developmentally stimulating environments:

1. The optimal development of a young child requires an environment ensuring gratification of all basic physical needs and careful provisions for health and safety.

2. The development of a young child is fostered by a relatively high frequency of adult contact involving a relatively small number of adults.

3. The development of a young child is fostered by a positive emotional climate in which the child learns to trust others and himself [or herself].

4. The development of a young child is fostered by an optimal level of need gratification.

5. The development of a young child is fostered by the provision of varied and patterned sensory input in an intensity range that does not overload the child's capacity to receive, classify and respond.

6. The development of a young child is fostered by people who respond physically, verbally, and emotionally with sufficient consistency

and clarity to provide uses as to appropriate and valued behaviors and to reinforce such behaviors when they occur.

7. The development of a young child is fostered by an environment containing a minimum of social restrictions on exploratory and motor behavior.

8. The development of a young child is fostered by careful organization of the physical and temporal environment which permits expectancies of objects and events to be confirmed or revised.

9. The development of a young child is fostered by the provision of rich and varied cultural experiences rendered interpretable by consistent persons with whom the experiences are shared.

10. The development of a young child is fostered by the availability of play materials which facilitate the coordination of sensory-motor processes and a play environment permitting their utilization.

11. The development of a young child is fostered by contact with adults who value achievement and who attempt to generate in the child secondary motivational systems related to achievement.

12. The development of a young child is fostered by the cumulative programming of experiences that provide an appropriate match for the child's current level of cognitive, social and emotional organization.

(pp. 10-11)

The relationship between parenting styles and the child-rearing environment and the usefulness of considering the environmental context as an important element of the developmental process cannot be overlooked in this comprehensive definition.

Using this definition, Caldwell and Bradley (1984) developed the Home Observation for Measurement of the Environment--Revised (HOME). It is an interview/observation technique that measures a child's early developmental environment. The instrument is administered in the child's home to maximize the comfort of the parents and children and to observe the actual environment. The HOME Inventory has been developed to specify the mechanisms through which the environment facilitates human development. This is done by assessing the stimulation potential of the early developmental environment. Parenting style is an aspect of the home environment and of this inventory, as can be seen in the list of important characteristics. Goodman and Brumley (1990) used the questionnaire in a study in which they compared parenting behaviors and child-rearing environments among families with schizophrenic, depressed, and emotionally healthy mothers. They considered parenting behaviors to be an aspect of the child-rearing environment and used observational techniques and a semistructured interview to measure them. Results indicated that maternal affectional involvement and responsiveness, measured by interview and observation, was the largest parenting factor affecting children's social behavior. Punishment, discipline, and physical environment quality (aspects of the child-rearing environment) were found to be most important to children's psychomotor intellectual functioning. Difficulties in parenting were found to contribute to withdrawal, self-criticism, deficiencies in social skill development, and

behavior problems in children. Similarly, Sameroff and Seifer (1983) found that parental beliefs, attitudes, and coping abilities mediated between environmental stress and child competencies. These researchers considered parenting styles in the context of the greater developmental environment in order to get a bigger, more complete picture of the factors that influence children's resilience or vulnerability to stress. Their findings further established validity of the HOME Inventory by demonstrating that parenting behaviors are closely related to the child-rearing environment provided by parents and that both have specific effects on children's behavior. The HOME Inventory, then, is a useful tool in research on parenting styles because it provides a needed contextual background against which to study aspects of child-rearing as well as children's development and adjustment.

Use of this instrument also helps to reduce or eliminate the problems with reliability that are created when parents and children are studied in artificial environments. Kochanska (1990) and her associates (Kochanska et al., 1989) performed the experiments described above in a laboratory apartment. Because they were sensitive to the potential effects of the environment on parent-child interactions, they attempted to create the most comfortable and natural setting possible. They equipped the apartment with a number of household items and age-appropriate toys and had mothers and children interact in naturalistic situations and family routines such as free time, lunch preparation, meal time, story time, and a period when the mother was engaged in an activity that did not include the child. Nonetheless, the experiment was performed in an artificial environment. Saxe and Stollak (1971) previously demonstrated that observations and parent-child interactions could be affected by contrived situations and environments. This change could

contaminate the results of a study and make the reliability of the data questionable. Researchers using the HOME Inventory are able to bypass this problem because the questionnaire is completed in the home where the parent and child are likely to feel most comfortable and natural. Thus, the information gathered with this inventory is likely to be more accurate and to reflect more realistic behaviors and interactions between the parent and child than information gathered in a laboratory setting.

It has been useful to include the environmental context of a child when studying childhood development. Researchers have provided a truer representation of the interactions between parenting styles and the environment and a richer understanding of the influences of the constructs on the child when they have measured parenting styles within the context of the whole environment of the child. It has strengthened our knowledge about the far-reaching impact the relationships parenting styles and attitudes have with children's development.

Importance of Attachment to Childhood Development

Parenting styles and child-rearing environments have been shown to be associated with attachment (Sroufe, 1979), which has also been associated with important aspects of childhood development. Bowlby's work with animals and humans provided the impetus for the consideration of mother-infant attachment in children's development. He found that an infant's attachment to his or her mother or mother-figure was very important in survival, satisfaction of needs, protection, and learning various behaviors for developing self-sufficiency (Bowlby, 1969). Egeland and Farber (1984) later demonstrated that the reciprocal, interactive, cooperative, and sensitive behaviors of mothers with their infants

were an important aspect of attachment quality, thus directly relating parental behaviors to children's attachment.

Ainsworth and her followers, using the Strange Situation, have performed numerous studies on the development of attachment of infants to their mothers. They have found three main types of behavior patterns that characterize the quality of the infant's attachment to his or her mother: securely attached, ambivalently attached, and avoidantly attached. These behavior patterns have been demonstrated to be differentially related to infant exploratory behavior, such that when babies feel safe, they respond to novelty more frequently. When babies feel the need to maintain proximity/contact because of insecurity or anxiety, they do not investigate the environment as often (Ainsworth, 1979). Furthermore, attachment security has been related to ego-resilience, ego-control, curiosity, problem-solving effectiveness, and competence in preschool (Arend, Gove, & Sroufe, 1979). Because exploration is essential in developing the potential to adapt to a wide range of environments, its interplay with attachment is important. These studies suggest that attachment security is associated with parenting styles, child-rearing environments, and children's adaptability, which in turn are associated with the presence or absence of exploratory behavior in children. Curiosity can therefore be used as a marker variable for children's attachment, adjustment, and development.

Conceptualization and Definition of Curiosity

Curiosity has been studied in depth in terms of childhood adjustment. It has been closely identified with other broad areas of interest, including drives, motivation, novelty preference, affect, and arousal states (Berlyne, 1960; Cantor & Cantor, 1966; Fowler,

1965; Henderson, 1984; Henderson & Moore, 1979, 1980; Mayes, 1991; White, 1959) and has been shown to be related to intelligence and academic competence (Maw & Maw, 1964, 1965), cognitive development (Banta, 1970; Piaget, 1963), intrinsic motivation (David & Witryol, 1990; Harter, 1981; Harter & Zigler, 1974), and parent-child attachment (Ainsworth, 1979; Arend et al., 1979). In addition, the presence or absence of curiosity has been considered an indication of resilience or vulnerability in children (Luthar & Zigler, 1991). In many of these studies, researchers have cited Freud's theory of psychosexual drives and the theories of reinforcement and learning to explain children's curiosity, and some have used animal research as a basis from which to hypothesize about curiosity and its role in childhood development (Bowlby, 1969; Fowler, 1965; White, 1959).

Berlyne (1960) was one of the first researchers to consider curiosity an important developmental characteristic in children. He conceptualized curiosity as a series of continuing drive states, the satisfaction of which leads to knowledge. He hypothesized that the drive states were related to specific elements of stimuli, such as novelty, complexity, and incongruity. These elements were aspects of a child's environment. The absence of stimuli of this nature, he believed, would negatively affect the continuation of the drive to explore and to learn, would reduce the child's exposure to material conducive to healthy development, and thus, would increase vulnerability to developmental difficulties.

Curiosity has also been conceptualized as being an aspect of an individual's personality. Researchers with this perspective typically have attempted to differentiate

between curious and noncurious children on the basis of various measures and to relate these differences to some other phenomenon, such as attachment or intrinsic/extrinsic motivation. These studies are similar to ones in which curiosity has been conceptualized as a drive. As Berlyne (1954, 1960) recommended, these researchers have attempted to identify specific elements of perceptual curiosity by introducing stimuli of varying novelty, complexity, uncertainty, and surprisingness. However, they have also gone further, suggesting that differences among children's scores reflect varying levels of diversive curiosity. Diversive curiosity, which is the motivational state involved in a general orientation toward exploration and interest in the environment, has then been related to other factors that supposedly influence children's development. In this conceptualization, epistemic curiosity, which is motivation for knowledge, is dependent on both specific exploration, which reflects perceptual curiosity, and diversive curiosity.

Day (1968) hypothesized that having different aspects of curiosity would lead to a global behavior pattern of interest in exploration and would lead to increased learning and development. In three studies measuring curiosity in junior high-school students, he demonstrated that, although perceptual aspects of stimuli had an important influence on curiosity levels, differentiation among students on the basis of curiosity scores was influenced by "interest in complex stimulation" (p. 41), which led to the pattern of interest in exploration he hypothesized. This change in focus from the nature of the stimuli to the internal state of the individual led to a great increase in research on personality variables. It also ushered in the current focus on the relationships of these variables with various aspects of children's development and on psychological health. Curiosity is a useful

construct because it is closely related to a child's resilience or vulnerability to environmental stress and developmental difficulties, and therefore it can be used to identify those children at risk for problems so that changes might be made to improve their chances for healthy development.

Recently, researchers have studied curiosity in terms of exploration of highly novel stimuli, breadth of curiosity (cursory examination of many objects), depth of curiosity (detailed examination of a few objects), preference for complexity, and preference for the unknown (Henderson, 1984; Henderson & Moore, 1979, 1980; Langevin, 1971). They have developed many useful instruments to measure the different aspects of curiosity listed above. They cautioned against using only one or two measures to characterize such a complex construct and recommended using a set of instruments that incorporates measurement of many elements of curiosity. Henderson and Moore (1979, 1980) have utilized a set that includes a task that measures preference for complex stimuli, one that measures preference for unknown or novel stimuli, and two boxes of toys and gadgets that the child is allowed to play with and manipulate in a variety of ways. This set has been particularly useful because it includes different approaches for measuring and scoring many aspects of curiosity. For example, one task that measures interest in novel stimuli involves children's simply picking out pictures they want to view, whereas another instrument requires children to be actively involved with novel toys. The first is scored by counting novel pictures chosen and the other is scored by making a variety of observations. Using a multitask, multimethod approach, they obtained a comprehensive measure of curiosity that probes the "curiousness" of stimuli and also measures children's

internal drive states and interest in exploration. In addition, they reduced potential measurement error and bias by utilizing tasks that require less intellectual involvement and more purely behavioral engagement with the instruments. With this set of instruments, they successfully differentiated between more and less curious children and related the construct to certain parental behaviors and to differences in social settings. Through their extensive research, then, they have demonstrated that curiosity is indeed a broad, multifaceted construct that is directly related to, and should be considered an important aspect of, children's behaviors and interactions with the environment.

Although curiosity has been demonstrated to be a measurable aspect of children's behaviors and interactions with the environment, and thus of their development and adjustment, it has not been studied extensively in relation to parenting styles. In one study the relationship between curiosity and parenting styles was measured, but the instrument used to measure parenting styles was a rating scale (Maw & Maw, 1965). Rating scales have been demonstrated to be biased because of the potential for response sets, such as acquiescence, social desirability, and differential use of hyperbole (Block, 1981). Likewise, Baldwin (1993) found that responses to a Likert scale questionnaire about parenting styles and attitudes were subject to a positive response set that biased their scores. Saxe and Stollak (1971) used observational methods rather than rating scales to study the association between curiosity and parental behaviors. They observed children and their mothers interacting in a laboratory playroom and found that maternal nonattentiveness was negatively correlated with measures of children's curiosity, mothers' novel curiosity was highly positively correlated with children's, and maternal punitive

behaviors were not negatively correlated with children's expression of curiosity, although mothers' expressions of positive feeling were positively correlated with some measures of curiosity. Their conclusions were that curiosity is related to certain aspects of parental behavior. The main limitations of this study were that the laboratory setting might have influenced mothers' free expression in interaction with their children and that a permissive and socially acceptable behavior set could have been elicited by the environment and expectations of the researchers in the study. Furthermore, Saxe and Stollak themselves admitted that their method did not allow them to clarify which aspects of parental behavior and of children's curiosity were most influential. Most importantly, curiosity cannot be suitably measured by only one type of scale. As stated above, it is a multifaceted construct that has been demonstrated to involve different elements, including style of exploration (breadth, depth of interest), mode of response (manipulation, question asking), and elicitors of exploratory behavior such as novelty, uncertainty, and complexity (Henderson & Moore, 1979). To measure a complex process such as curiosity, one must include a number of different types of tests and methods. Therefore, evidence has been inconclusive about the specific relationship between curiosity and parenting styles, primarily because of methodological problems in the few studies in which it was directly measured.

Purpose of Study

In the present study, the relationships of parenting styles, attitudes, and child-rearing environments with children's curiosity, the relationships of parenting styles and attitudes with child-rearing environments, and the indirect relationships of parenting styles

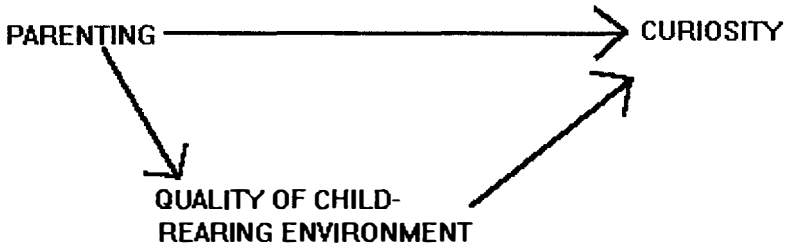
and attitudes with children's curiosity through child-rearing environments were examined. It was expected that the information gleaned from this research would demonstrate whether parenting styles, parental attitudes, and home environments are important in the development and maintenance of curiosity in children.

CHAPTER II

Methodology

Hypotheses

The relationships among parenting styles, the quality of the child-rearing environment, and children's curiosity were considered in this study. The model can be diagrammed as follows:



Two hypotheses were considered:

Hypothesis 1: Parenting styles and attitudes, directly and indirectly, through the quality of the child-rearing environment, are related to the child's curiosity. Specifically, children with parents who endorse an authoritarian parenting style and negative attitude toward children and the child-rearing role have lower levels of curiosity than children whose parents claim an authoritative parenting style and a positive attitude toward children and parenting. Parenting styles and attitudes, which are aspects of parents' personalities, are related to the quality of the child-rearing environment, and through it, are related to the level of curiosity in children.

Hypothesis 2: The quality of the child-rearing environment is directly related to children's curiosity. Children living in less supportive, enriching child-rearing environments have lower levels of curiosity than children living in stimulating and supportive child-rearing environments.

Sample

The sample consisted of 74 parents who were primary caregivers and their 3- to 6-year-old children. The only criterion for inclusion in the sample was that the oldest child in the family was within that age range. Families were recruited from five day care centers and after-school programs that served primarily middle-class families in the metropolitan area of Memphis. All families at the day cares who met the criterion for inclusion were invited to participate. Of those who were invited to participate, it is estimated that 30% agreed. It was not possible to obtain an exact figure nor to determine how representative those who participated were in relation to the whole day care population.

Eighty dyads were interviewed, but six dyads were excluded from the analyses because of lack of variation on one variable, errors in measurement of two children, and unstable home situations for two families. Two of these pairs were excluded because the children did not participate fully in the tasks. Both children were extremely timid and reluctant to engage in the tasks. They were also, according to their mothers, unusually restless. One child had a friend over, with whom she wanted to play, and the other had returned from vacation the day before. The sessions, nonetheless, were continued. There was a possibility, therefore, that the resulting data for these two children were invalid. Likewise, two other pairs were excluded because of problems with the parents'

participation. At the end of one interview, the researcher discovered that one 3-year-old child had actually been living with his grandparents for over a year and had just returned to his mother's home. All of his toys, books, and games were still over at his grandparents' home, and he and his mother were still trying to establish a stable home environment together. When reviewing the data gathered from another home, it was discovered that the mother had completed the interview and tests but identified her children's father as the primary caregiver. In fact, she indicated on the Demographic Information Questionnaire that she was not very involved with her children at all and that her children's father did most of the parenting. As a result, these two subject-pairs were excluded from the analysis. Two other dyads were excluded from the analysis on the basis of idiosyncratic scores on the CRPR. This will be discussed below with the description of the CRPR.

The final sample meeting the criteria for inclusion was comprised of 74 parent-child dyads. This sample included 62 white, 10 African-American, and 2 Asian-American families. Primary caregivers were the respondents in the study, and they included 68 mothers and 6 fathers. Among married parents, 48 mothers and 3 fathers identified themselves as the primary caregiver. Among unmarried parents, 20 mothers and 3 fathers identified themselves as the primary caregiver. Their ages ranged from 22 years to 48 years. Fifty-one parents were married, and 23 were not. Twenty-one mothers identified themselves as the head of the household, 29 mothers identified their husbands as the head of the household, 3 mothers identified their own fathers as the head of the household, 5 fathers identified themselves as head of the household, and 15 mothers and 1 father claimed both parents shared the head of household responsibilities. Parental education

levels ranged from less than high school to advanced degrees. Income levels ranged from low to high-average. The number of people living in the homes ranged from two to five. The children included 38 boys and 36 girls. There were 17 3-year-olds, 22 4-year-olds, 28 5-year-olds, and 7 6-year-olds. Children's verbal IQ scores ranged from 65 to 143 and were normally distributed (M = 103, SD = 15.9).

Measurement

Parents

Demographic Information Questionnaire. This was used to determine age, race, and gender of parent and child, marital status of parent, number of people in the home, parents' educational levels, and income. (Appendix A contains the form administered.)

No statistical reliability or validity information is available for this measure. Family income level was omitted because it had very low face validity and a restricted range.

The Home Observation for Measurement of the Environment Inventory--Revised (HOME) (Caldwell & Bradley, 1984). The questionnaire for preschool-age children was used. This is a 55-item questionnaire about the home environment and involves interview and observational techniques. Four basic areas are covered in the interview: trips out of the home and visits into the home, toys that are available to the child, the way the family arranges the daily routine, and discipline. There are also some items covered by observation of the physical environment in which the family lives. The items are combined into eight subscale scores identified by Caldwell and Bradley: stimulation through toys, games, and reading materials; language stimulation; physical environment; pride, affection, and warmth; stimulation of academic behavior; modeling and encouraging of social

maturity; variety of stimulation; and (avoidance of) physical punishment. The inventory takes between 45 minutes and an hour to complete and is administered to the mother when the child is present and awake. (Appendix B contains a list of the items in the questionnaire.)

The measure was demonstrated by Caldwell and Bradley (1984) to have good internal consistency, based on the Kuder-Richardson 20 formula (KR-20 = .93); test-retest reliability, $r(32) = .70$; and construct validity. They established construct validity for the questionnaire by demonstrating that it was related to cognitive development, achievement, and socioeconomic status (SES). No reliability indices are available for data from this study.

The Child-Rearing Practices Report (Block, 1965). It is a self-report Q-sort technique that consists of 91 items about parents' behaviors, attitudes, values, and goals. Parents are given 91 cards, each with a statement on it, which they read and place into the category which best fits their beliefs about the item. There are seven categories, ranging from most descriptive of me to most undescriptive of me. After all of the statements have been sorted, only 13 items remain in each category.

The four subscales developed by Kochanska et al. (1989) were used for identification of parenting styles and attitudes because of their reported usefulness in differentiating comprehensive parenting styles and attitudes. These subscales include authoritarianism, authoritativeness, enjoyment of the parental role, and negative affect. Authoritarianism is comprised of 13 items that reflect the following factors, developed by Block (1965): Authoritarian Control, Supervision of the Child, and Control through

Anxiety Induction. It has been associated with maternal use of direct commands, physical enforcements, reprimands, and prohibitive interventions (Kochanska, 1990). Authoritativeness is comprised of 16 items that reflect the following factors: Rational Guiding of the Child, Encouraging of the Child's Independence, and Open Expression of Affect. This pattern has been associated with the use of positive incentives and polite suggestions and negatively related to the use of direct commands, enforcements, and prohibitions (Kochanska, 1990). Enjoyment of the parental role is made up of three items that reflect one of Block's factors of the same name; negative affect is comprised of three items that reflect one of Block's factors as well. Both of these subscales have been associated with children's cooperation and resistance in response to control attempts by the mother (Kochanska, 1990). The Q-sort items can be found in Appendix C; the items that make up the four subscales are listed in Appendix D.

Block (1981) demonstrated test-retest reliability of the CRPR, $\underline{r}(89) = .71$. However, after she submitted the data gathered from her sample to a factor analysis, she found that many of the factors had generally low internal consistency (Cronbach's α from .09 to .70). In response to this, Kochanska et al. (1989) combined several of Block's factors into the conceptually organized subscales described above. They demonstrated that the subscales they developed from the CRPR have good predictive validity. They were able to predict successfully the behaviors and affect parents would demonstrate based on self-reported subscale endorsement. Dekovic et al. (1991) also found the subscales to have good validity. They found that the CRPR subscales successfully discriminated between parents of popular children and parents of rejected children, and

they identified significant correlations between CRPR subscale scores and observed parental behavior. In addition, they demonstrated that the authoritativeness and authoritarianism subscales had good internal consistency (Cronbach's $\alpha[12] = .65$, and Cronbach's $\alpha[15] = .71$, respectively). No reliability or validity data are available for this study.

Children

All tasks were administered in the same order because of increasing complexity of the tasks. The earlier ones served to acclimate the children to the testing situation and helped put them at ease with the researcher so that they would feel as comfortable as possible participating fully in the later tasks. Sample score sheets for the curiosity tasks are in Appendix E.

The Peabody Picture Vocabulary Test--Revised (PPVT-R). This is a task in which the child chooses from among four pictures the one that is the same as the word-prompt given. It provides a standard measure of verbal IQ ($M = 100$, $SD = 15$). It has been demonstrated to have good reliability and to be a valid predictor of verbal intellectual potential.

The Preference for Complexity Task (Henderson & Moore, 1979). This task consists of a set of 20 5 in. x 8 in. (12.7 cm x 20.3 cm) cards with four two-dimensional figures on each. The figures on any one card are identical (circles, squares, triangles) but contain one to five elements (lines, curves, small figures, etc.) within the borders of the figures. Children are asked to choose one figure they want to look at longest. Responses are scored from least complex (1) to most complex (4).

Henderson and Moore (1979) demonstrated adequate test-retest reliability on the measure when 22 preschoolers were tested and retested within 3 weeks, $\underline{r}(21) = .57$. Henderson (1984) reported good internal consistency reliability (corrected split-half), $\underline{r}(67) = .84$. No validity information was given. In this study, Cronbach's α was generated to estimate internal consistency, $\alpha(19) = .64$.

The Preference for the Unknown Task (McIntyre, 1993). This is a picture-book task that consists of 20 sets of pictures. When the book is opened, the child sees a picture on the left side. On the right are two pictures, one above the other, covered by small doors. The one on the bottom is always identical to the picture on the left page; the one on the top is always a different but related picture. The child is allowed to open only one door. The score is obtained by counting the number of top doors (for different pictures) opened.

An internal consistency measure of reliability was obtained for this study, $\alpha(19) = .91$. No other reliability or validity data are available, but a similar task developed by Henderson and Moore (1979) was demonstrated to have high test-retest reliability, $\underline{r}(21) = .74$.

The Drawer Box. This task was designed by Henderson and Moore (1979) and adapted from previous research to measure a child's breadth and depth of curiosity in moderately novel stimuli. The box has 20 drawers, each of which contains a small toy such as an airplane, a matchbox car, or a ring. The child is invited to play with the toys inside. Measurement involves coding the number of questions asked and comments made, number of drawers opened, number of toys taken out, number of toys played with and/or

manipulated, median and total time spent with toys, and a search score (frequency of opening adjacent drawers in order).

Henderson and Moore demonstrated good interrater reliability with the measure (agreement from 81% to 98%). No reliability or validity indices were computed for this study.

The Curiosity Box (Banta, 1970). This task measures exploration of highly novel stimuli. It is a 40 cm x 30 cm x 25 cm wooden box with many possible manipulations. The features of the box include a hinged door, a hook and eye, a door chain, a light switch, two peepholes into a lighted chamber containing pictures, a hole covered with a rubber garbage disposal gasket with an animal inside, a light chain, a sliding door latch, two "Slinky" toy springs, a nut and bolt, a window latch, a screw, and a sandpaper panel. Scores are based on observations of manipulative, tactile, and visual exploration; movement of the child and the box; and curiosity-related and fantasy-related verbalizations. Manipulative exploration is defined as the child's attempt to move objects or parts of the box, such as pulling on the "Slinky," moving the latches back and forth, opening the lid, or swinging the light chain. Tactile exploration is defined as exploration of the surface of the box or parts of it, such as touching the walls, running fingers across an object or the sandpaper panel, or actively exploring the animal hidden in the box. Visual exploration is defined as active observation and/or scrutiny of various features of the box, especially looking through the lighted apertures at the pictures on the walls, looking into the part of the box closed by the hinged door, and looking in the cracks in the box. Passive, detached observation is excluded. Measurements are made during every

0.5-min interval for 5 min and simply involve noting which behaviors occur during each period. Banta (1970) reported a high internal consistency coefficient for this task, $\underline{r}(82) = .91$. Test-retest and interrater reliability coefficients were not available for this measure. He demonstrated good convergent validity with high correlations between the Curiosity Box task and other tasks designed to measure curiosity ($\underline{r}$ ranged from .34 to .52). Henderson and Moore (1979) reported high interrater reliability estimates (ranging from 80% to 100%). No reliability indices were computed for this study.

Data Collection

Families who agreed to participate were visited in their homes by the principal investigator. An undergraduate assistant also attended the first 15 visits. She assisted by administering and scoring the parents' questionnaires. The scores obtained on the HOME Inventory questionnaires that she administered were to be used to monitor reliability of the observations made by the principal investigator. However, it quickly became apparent that having both investigators observing and taking notes on the dyad was very disconcerting to both the parent and child. Therefore, the procedure was modified, such that the principal investigator sat apart from the assistant, parent, and child, and observed without scoring or taking notes. After the session, the assistant's scores were reviewed and disagreements were resolved through discussion. Because of scheduling difficulties the undergraduate assistant was unable to continue participating in the project, and the remaining 65 parent-child dyads were visited by the principal investigator alone. Measures were administered to the parent first while the child was present and then to the target

child. The entire procedure took about 1 1/2 hr. Children who participated received a small toy for their time and effort.

Data Reduction

The data from the Demographic Information Questionnaire were compiled, and the values of each variable were reduced to between two and four groups to simplify analyses and ensure that categories were larger than one value. Caregiver's age was categorized into four groups: < 30, 30-34, 35-39, > 39. Mothers' and fathers' education levels were grouped into four categories: high school graduate or less, some college/associate's degree, B.A./B.S., and postgraduate level. Heads of household were placed in three groups: mother, father/grandfather, and both parents. Marital status was dichotomized into married and nonmarried categories. Race was also dichotomized into white and nonwhite groups.

The curiosity tasks were scored using the format described above. The verbalization scores from the Curiosity Box and the Drawer Box were combined. Observations of the children suggested that many of them, particularly the younger ones, tended to have a response set throughout the Preference for Complexity task. They tended to choose the figure in the same position on each card regardless of its complexity. It seems these children were unable to understand or follow the directions given, which suggested that the task was an unreliable and invalid estimator of preference for complexity. In addition, Henderson (personal communication, April, 1994) indicated that he had also found the task to be subject to response set bias. Based on the observations, Henderson's recommendations, and the low reliability index, this task was excluded from

the analysis. The five curiosity variables obtained from the Curiosity Box task (manipulative exploration, tactile exploration, visual exploration, movement of subject, and movement of box) were computed. Ten 0.5-min intervals had been measured. These were collapsed into five 1-min intervals and the scores were added. Children were given a point on a variable if they had acted on it at least once within each 1-min segment. The scores were each ranked and normalized, using Blom's statistic.

These and the other variables obtained from the Preference for the Unknown and Drawer Box tasks (preference for unknown, verbalization, total time with toys, search, and a play score) were reduced using a 3-factor solution iterated principal-components factor analysis with varimax rotation. Factors were identified that accounted for 48.4% of the variance, and factor scores were computed. They reflected Depth of Exploration, Breadth of Exploration, and Interest/Comfort with Novel Stimuli. Depth of Exploration referred to the detailed examination of a few objects and involved the amount of time spent with toys, the number of toys played with, the types of exploration involved in play, and physical and verbal involvement with the toys and tasks. Breadth of Exploration referred to a cursory examination of many objects and included physical activity of the child in order to see and interact with all the toys and tasks. Interest/Comfort with Novel Stimuli referred to the child's timidity or venturousness and involved the child's willingness to look at and interact with unfamiliar or hidden objects. These three factors were highly similar to three of the five factors Henderson and Moore (1979) found in their study on curiosity. The factor scores were added to form a curiosity composite score. The factor elements and their loadings can be found in Table 1, Appendix F.

Self-report score averages on the four CRPR subscales (authoritativeness, authoritarianism, negative affect, and enjoyment of the parental role) were computed. The items in each subscale had been placed by the parent into one of seven categories ranging from most undescriptive of me (1) to most descriptive of me (7). The scores of the items in each subscale were added together, and the total was divided by the number of items in the subscale. Scores on the subscales, then, ranged from 1 to 7. Because positive endorsement of a subscale required a subscale score average of at least 4.50 (on a scale of 1 to 7 in which 4 represented neither descriptive nor undescriptive), the average subscale scores were ranked, such that if the person's average was less than 3.50, the rank was -1, meaning undescriptive of me; if the average was between 3.50 and 4.49, the rank was 0, meaning neither descriptive nor undescriptive of me; if the average was 4.50 or greater, the rank was 1, meaning descriptive of me. High negative correlations (on unranked scores) were found between authoritarianism and authoritativeness, $r(74) = -.54$, $p < .0001$. Using Kochanska's (1990) method, the ranked authoritativeness and ranked authoritarianism scores were aggregated into a composite called parenting style by subtracting authoritarianism from authoritativeness. Resulting scores on the parenting style composite ranged from strongly authoritarian (-2) to strongly authoritative (+2). For example, if a parent had a ranked score of +1 on the authoritativeness subscale (representing that the parent felt it was descriptive of her or him) and a ranked score of -1 on the authoritarianism subscale (representing that the parent felt it was undescriptive of her or him), the parenting style composite score would be +2. Likewise, if a parent's authoritativeness subscale ranked score was +1 and his or her authoritarianism subscale

ranked score was 0, the parenting style composite score would be +1. The same transformation was performed on the negative affect and enjoyment of the parental role subscales. High negative correlations were found between enjoyment of the parental role and negative affect, $r(74) = -.60$, $p < .0001$. The ranked enjoyment of the parental role scores and ranked negative affect scores were aggregated into a composite called attitude by subtracting negative affect from enjoyment of the parental role. Resulting scores on the attitude composite ranged from strongly negative attitude (-2) to strongly positive attitude (+2).[1] Parents who received scores of 0 or 1 on the parenting style and attitude composites were grouped, which made the parenting style and attitude variables dichotomous. The values ranged from somewhat authoritative (1) to strongly authoritative (2) on the parenting style composite, and from somewhat positive attitude (1) to strongly positive attitude (2) on the attitude composite. These two composites were considered separate independent variables in the main analysis.

Data Analysis

Parenting style and attitude scores were examined to determine whether an interaction existed between them. Parents who claimed to be strongly authoritative also claimed to have a strongly positive attitude. Those who identified themselves as being somewhat authoritative also identified themselves as having somewhat positive attitudes.

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[1] Only two parents had negative scores on the parenting style and attitude composites. Because this meant there was virtually no variation in the lower range of scores on the parenting style and attitude composites (authoritarianism and negative attitude), these dyads were dropped from the final sample.

Because no interaction was found between these two variables, an interaction variable (Parenting Style x Attitude) was not included in the analysis.

To measure the amount of variance in the curiosity composite accounted for by the independent variables (primary caregiver, home environment, parenting style, attitude), a multiple regression analysis was performed, with the criterion for significance set at $p < .05$. Each variable was forcibly entered one at a time to determine both semipartial (individual) and cumulative effects. Squared semipartial correlations between independent variables and the curiosity composite were computed to represent the unique variance shared between each independent variable and the curiosity composite. Squared semipartial correlations were also computed to represent the relationships between the independent variables. Indirect effects were computed using a path-analysis technique described by Cohen and Cohen (1983) to measure the influence of the primary caregiver variable on the curiosity composite through parenting style, attitude, and home environment variables and to measure the effects of the parenting style and attitude variables on the curiosity composite through the home environment variable. Scores were reported as squared semipartial correlations.

CHAPTER III

Results

Of the demographic variables, only the primary caregiver variable was found to be associated with curiosity. Primary-caregiver-fathers had children with higher levels of curiosity than primary-caregiver-mothers did. This variable, therefore, was included in the analysis, so that its effects could be controlled. The other demographic variables were not included in the main analyses. The correlation matrix with curiosity and the independent variables is in Table 2, Appendix F.

Analyses demonstrated that the model accounted for 18% of the variance in the curiosity composite, $r(69) = .42$, $p < .01$. Table 3, Appendix F, includes the unique variance shared between the independent variables and curiosity. Parenting style and attitude variables were entered in one step to measure their combined prediction of the curiosity composite. They contributed 7% of the variance of the curiosity composite, $r(69) = .26$, $p < .01$, independent of primary caregiver and home environment variables. Individually, parenting style contributed 5%, $r(69) = -.22$, $p < .05$, and attitude contributed 1%, $r(69) = -.08$, $p > .05$. Both scores correlated negatively with the curiosity composite. These results suggested, therefore, that parents who claimed to be somewhat authoritative, as opposed to strongly authoritative, had more curious children. Attitude was not predictive of children's curiosity.

When the parenting style and attitude variables were regressed on the home environment variable without the curiosity composite in the equation, parenting style was found to be significantly correlated with the home environment variable, $r(70) = .23$, $p < .05$. Attitude was not correlated with the home environment, $r(70) = .03$, $p > .05$. Parents who claimed to be strongly authoritative tended to provide more positive home environments than parents who claimed to be somewhat authoritative. Furthermore, the parenting style variable was significantly positively correlated with four HOME Inventory subscales. They included stimulation through toys, games, and materials, $r(62) = .20$, $p < .05$; modeling and encouraging of social maturity, $r(62) = .28$, $p < .01$; (avoidance of) physical punishment, $r(62) = .34$, $p < .001$; and variety of stimulation, $r(62) = .22$, $p < .05$. The more strongly an authoritative style was endorsed, the higher the scores on the HOME Inventory subscales were.

The home environment accounted for 7% of the variance of curiosity, $r(69) = .27$, $p < .01$, independent of primary caregiver, parenting style, and attitude variables. This demonstrated that more positive, stimulating home environments were associated with higher curiosity in children and that less positive, stimulating home environments were associated with lower curiosity in children. Because this composite score was significantly related to curiosity, the eight HOME Inventory subscale components were entered to determine which ones were significantly associated with the curiosity composite. When they were entered in place of the home environment composite, the total variance accounted for by the model increased to 29.5%, $r(62) = .54$, $p < .01$. Three of the variables were found to be significant, controlling for the primary caregiver, parenting

style, and attitude variables. Stimulation through toys, games, and reading materials contributed 7% of the variance, $r(62) = .26$, $p < .01$; modeling and encouraging of social maturity contributed 5% of the variance, $r(62) = .22$, $p < .01$; and (avoidance of) physical punishment contributed 6% of the variance, $r(62) = .24$, $p < .01$. These results suggested that more stimulation, more modeling and encouragement of maturity, and infrequent physical punishment were correlated with higher curiosity in children.

Independent of the parenting style, attitude, and home environment variables, primary caregiver was found to account for 7% of the variance of curiosity, $r(74) = .26$, $p < .01$. Fathers who were primary caregivers had more curious children than mothers who were primary caregivers.

Indirect relationships were computed. A listing of these is in Table 4, Appendix F. None of the relationships were found to be significant. Neither the parenting style nor attitude variables contributed to the home environment in terms of their correlations with the curiosity composite. The indirect effect of the parenting style variable on the curiosity composite through the home environment was not significant, $r(69) = .08$, $p > .05$; the indirect effect of the attitude variable on the curiosity composite through the home environment was also not significant, $r(69) = .05$, $p > .05$. These results suggest that the relationships the parenting style and attitude variables had with the home environment variable did not add significantly to the variance that the home environment shared with curiosity. In other words, the high correlation between parenting style and the home environment reduced the effect size parenting style or attitude had on curiosity over and above that which the home environment contributed. Statistically, this was demonstrated

by measuring the common relationship of parenting style and home environment with curiosity. The common variance was 5%, equal to the variance accounted for by parenting style on home environment. Indirect effects of the primary caregiver variable on the curiosity composite through the home environment, parenting style, and attitude variables were not significant: through home environment, $r(74) = .02$, $p > .05$; through parenting style and attitude, $r(74) = .01$, $p > .05$. Primary caregiver was not predictive parenting style, attitude, or the home environment in terms of their relationships with the curiosity composite. See Figure 2, Appendix G, for a graphic description.

CHAPTER IV

Discussion

Parenting Styles, Attitudes, and Children's Curiosity

Hypothesis one predicted that parenting styles and attitudes would contribute to children's curiosity both directly and indirectly through the quality of the child-rearing environment. In particular, it was proposed that parents who endorsed an authoritarian parenting style and had negative parental attitudes would have children with lower levels of curiosity than parents who endorsed an authoritative parenting style and had positive parental attitudes. This hypothesis can be partially accepted.

Only positive parenting styles and attitudes were endorsed (with the exception of 2 of the original 80 parents), although, based on Baldwin's (1993) results, the expectation was that approximately 11% of parents would endorse the authoritarian pattern. Without the authoritarian pattern represented in the data, the proposal that authoritarian parents would have children with lower levels of curiosity than authoritative parents cannot be examined. The lack of variation found in the data from the CRPR limits the usefulness of the information gleaned and raises the risk of increased error variance. Furthermore, the proportion of variance accounted for by the whole model was not great, although in personality research 18% is considered acceptable (John Lounsbury, personal communication, February 11, 1992). It is necessary, therefore, to consider these results cautiously.

As expected, parenting style was significantly related to children's curiosity. The relationship, however, was in the opposite direction from that expected. Parents who identified themselves as somewhat authoritative had children with higher levels of curiosity than parents who claimed to be strongly authoritative. It is possible that the parents who were truly authoritative did not claim so strongly to have that specific style. Those who claimed to be somewhat authoritative might be more confident in their parenting, such that they would be less ashamed or afraid to claim that they endorse having control and using some punishment. Also, they might tend to be more realistic about the ambivalence parents sometimes feel when dealing with young children, particularly at the ages of 3 to 6, when control issues are prevalent.

Another explanation is that an extreme belief or endorsement of anything is not healthy. For example, relationship problems can develop if a person is either extremely dependent or extremely independent. Many theorists have suggested that neuroses are extreme levels of normal emotions and behaviors (Shapiro, 1965). Obsessiveness, therefore, could be considered an extreme form of orderliness. Major depression could be thought of as a severe case of the blues. Baumrind (1966), too, reported that extreme parental restrictiveness, when paired with hostility, is associated with children's dependence, social withdrawal, passivity, and covert hostility, but moderate parental restrictiveness without hostility or overprotectiveness does not decrease children's self-assertiveness. In the same way, very strong endorsement of an authoritative parenting style might reflect an inflexible, unidimensional approach to parenting, whereas those who did not endorse it as strongly might be more willing to recognize other important aspects

of parenting than only authoritative behaviors. Perhaps children of parents who endorsed the authoritative pattern very strongly tended to be more curious as an escape from their parents' rigidity.

It was not possible nor desirable statistically to analyze the individual items in the authoritativeness subscale to identify which items were endorsed most strongly, so one can only speculate about which aspects of authoritative parenting were most important to these two groups of parents. For the parents who endorsed a somewhat authoritative style, though, some items other than the ones in the authoritativeness subscale were apparently very important in terms of their children's curiosity level. (Because the authoritative items were not all placed in the most descriptive category, other items took their places.) Aspects of child-rearing practices that were related to children's curiosity in addition to parenting style were tapped. In future research, it may be useful to identify what those items are so the importance of authoritative parenting on children's curiosity, in relation to other aspects of parental beliefs and attitudes, can be more fully understood.

Measured alone, neither attitude toward children nor the parental role was found to be related to curiosity. There are two possible explanations for this. First, Kochanska (1990) found that parental attitudes were related to parent and child behavior only when the parents were depressed. In nondepressed mothers, only parenting styles were related to parent and child behaviors. The sample in this study was not from a clinical population, so it was expected that parenting style would be more strongly associated than parental attitude with children's behavior. In addition, Baumrind (1966, 1967, 1968) actually considered the presence of a positive attitude toward children and parenting to be an

element of authoritativeness. Authoritarianism was characterized in her definition by a lack of warmth and involvement in the parental role. Parenting style, then, appears to be more important than parental attitude because of Kochanska's research and Baumrind's assertions that attitude is merely one aspect of a more complex parenting style. Although a number of researchers considered it important to measure attitude toward children and the parental role separately from parenting styles (Kochanska, 1990; Kochanska et al., 1989; Rickel & Biasatti, 1982; Rollins & Thomas, 1979; Trickett & Susman, 1988), attitude does not seem to be as important a predictor of children's behavior as hypothesized. Second, the parenting style variable was entered into the equation first because it was considered more important than the attitude variable. Attitude and parenting style were very closely related, which made the two variables nearly redundant. Statistically, because of the high relationship, parental attitude could not contribute much to children's curiosity over that which parenting style did. As a result, the relationship between parenting style and curiosity made up the bulk of the relationship between curiosity and the two dimensions of parenting, style and attitude; attitude contributed almost nothing unique.

Parenting Styles, Attitudes, and the Child-Rearing Environment

The second part of the first hypothesis predicted that parenting styles and attitudes would be related to the quality of the child-rearing environment. The results obtained were, for the most part, as expected. The more authoritative parents claimed to be, the more positive, supportive, and stimulating the home environments were. Although the authoritarian parenting style was not identified in these data, differences in the degree of

authoritativeness were related to the home environment. As discussed above, parental attitude was not found to have any explanatory ability in terms of curiosity. The same was true for its relationship with the child-rearing environment.

Theoretically, it makes sense to consider that parenting styles are predictive of the nature of the home environment because parenting styles are an aspect of parents' personalities that develop long before parents create their child-rearing environments. Also, even though specific parenting behaviors might be modified as a child develops, research has demonstrated that parenting styles tend to be relatively stable throughout the developmental process (McNally, Eisenberg, & Harris, 1991; Roberts, Block, & Block, 1984), suggesting that a parent's approach to dealing with his or her children is a constant from which many situations and behavior patterns arise. The data demonstrated that parenting styles are indeed important to the home environments parents create for their children.

Four aspects of the child-rearing environment were found to be significantly related to parenting style. These included stimulation of interest and exploration through the provision of many stimuli, encouragement of self-control and appropriate social behavior, provision of a variety of stimuli, and quantity and quality of physical punishment. The first aspect involves the quantity and types of resources the child has available to him or her. The variety of stimulation provided is similar to the first aspect. It involves the number and types of outings a child goes on and includes an element of regular parental involvement and interaction with the child. Both were related to verbal IQ. It is not surprising that these subscales were also related to socioeconomic status

(SES) because of the financial involvement in providing a variety of stimulating materials and experiences for the child. However, Caldwell and Bradley (1984) cited research that indicated that parents' levels of aspiration were more crucial than SES in the child's performance in school or on intelligence tests. Level of aspiration, defined as interest in "getting ahead" (p. 4) and in children's education and achievement, is clearly an aspect of parenting style. Parents with these interests would tend to spend more time with their children and value educational experiences more than parents who had a "getting by" tendency (p. 4); theoretically, these parents can be placed within the authoritative framework. More strongly authoritative parents also tend to model and encourage more social maturity in their children, and they do so more frequently. Modeling social maturity refers to the degree to which a parent teaches the child to moderate and notice internal cues, to exhibit self-control, and to interact with others appropriately. Unlike authoritarian parents, who emphasize obedience to external control, authoritative parents tend to try to instill in their children an internal belief in their own abilities to behave properly without having to be forced into it.

The amount and quality of physical punishment utilized by the parent is also an aspect both of parenting style and the child-rearing environment. The type of discipline valued in the home creates an atmosphere which can either inhibit or encourage the child to explore, interact with others, play, disobey, and learn. The authoritarian parent "values obedience as a virtue and favors punitive, forceful measures to curb self-will" (Baumrind, 1968, p. 261). The authoritative parent, on the other hand, values "disciplined conformity . . . but does not hem the child in with restrictions" (Baumrind, 1968, p. 261). In terms of

punishment, this means the authoritarian parent is more likely to punish the child more frequently and more harshly than the authoritative parent. Although no parents in this sample claimed to be authoritarian, somewhat authoritative parents were more likely to punish their children more frequently and more harshly than were very authoritative parents. Furthermore, somewhat authoritative parents were less likely to endorse strongly a belief in the importance of providing a wide range of materials and experiences, modeling and encouraging independence and autonomy, and punishing gently and infrequently. In future research, it will be useful to explore more fully the differences in degree and quality of parenting and the child-rearing environment, including the authoritarian pattern.

Goodman and Brumley (1990) found that mothers who were more enthusiastic, verbally and emotionally expressive, positive, interested, and involved in parenting had children with higher scores on an IQ scale of mental development. In addition, fewer instances of verbal and physical punishment and discipline had a positive effect on children's psychomotor IQ scores. They also found that mothers who demonstrated more positive parenting behaviors also had more positive, stimulating home environments. Given Baumrind's (1968) definition of authoritative parenting style, it is logical to find that parents who strongly endorse an authoritative parenting style would create an environment with a large quantity and variety of resources and stimulating outings for the child, would encourage both independence and conformity with established and understood rules, and would tend not to use a great deal of power or physical force to exert necessary and desired control over the child. These results, as a whole, support Goodman and

Brumley's previous findings about the relationship between positive, or authoritative, parenting styles and stimulating, educational, development-enhancing home environments.

The fact that parenting style was positively related to the quality of the child-rearing environment but negatively associated with children's curiosity may appear on the surface to be somewhat inconsistent. However, it is possible that authoritativeness, though clearly influential in the development of the child-rearing environment, has been mediated by some other aspects of parenting not measured in this study in terms of influence on children's curiosity. Perhaps, as noted above, those items the somewhat authoritative parents endorsed as most descriptive were actually more important to curiosity than parenting style alone and increased the amount of explanatory power the items comprising authoritativeness had. It will be important to explore parenting styles more fully in future research to obtain a more accurate picture of parents' styles, beliefs, and attitudes about parenting.

Indirect Relationship between Parenting Styles and Curiosity

There was no indirect relationship between parenting style and curiosity through the child-rearing environment. According to Cohen and Cohen (1983), a high correlation between two independent variables causes a "spurious" or common effect on the dependent variable to occur, which reduces the size of the indirect effect of one independent variable on the dependent one through the other independent variable. In other words, parenting style and the child-rearing environment were so closely related that parenting style could hardly contribute any explanation about children's curiosity over and above that which it contributed along with the child-rearing environment. These data,

then, suggest that there are two ways of operationalizing the developmental process described earlier. In practical terms, this implies that both parenting styles and child-rearing environments tap into important elements predictive of children's curiosity and that these relationships with children's curiosity are somewhat redundant. Many of the elements of parenting style that contribute to children's curiosity are similar, if not the same as, elements of the child-rearing environment that contribute to a child's level of curiosity.

The Child-Rearing Environment and Children's Curiosity

In hypothesis two it was predicted that the quality of the child-rearing environment would be related to children's curiosity. As measured by the HOME Inventory in this sample, this prediction was correct. The more positive, supportive, and educationally stimulating the home environment, the higher the child's curiosity level tended to be. Previous research has indicated that elements of the home environment, including quantity of interaction between parent and child, time spent by a child in intellectually valuable activities, active participation by a child in activities, and overt encouragement by parents, are associated with healthy, timely child development (Caldwell & Bradley, 1984). In addition, many researchers have demonstrated that environmental factors such as provision of stimulating materials and experiences; encouragement to do well and to behave appropriately; and positive, consistent communication with others mediate between parental pathology, environmental stress, and children's development (Sameroff & Seifer, 1983; Sameroff, Seifer, & Zax, 1982; Schuldberg, Singer, & Wynne, 1990; Seifer, Sameroff, Baldwin, & Baldwin, 1992).

Three elements of the home environment specifically defined by the inventory included these important factors. Not surprisingly, they were three of the components that were also closely related to parenting styles. They included educational and exploratory stimulation through a large number of stimuli, parental modeling and encouragement of autonomy and social maturity, and the amount and quality of physical punishment. Novelty of available stimuli, then, is important in the development of a child's curiosity. Berlyne (1960) suggested that the absence of novel, stimulating materials would negatively affect a child's desire to explore and to learn and would in turn increase his or her vulnerability to developmental difficulties. A home with a large quantity and variety of materials for playing and learning would be, as was found in this study, more conducive to a child's curiosity. The variety in experiences would contribute to the development of the child's interest in searching for variety, which is associated with healthy social and intellectual development. The importance of teaching a child to moderate and notice internal cues, to exhibit self-control, and to interact with others appropriately and autonomously has already been discussed above. More self-motivated children tend to be more curious. Providing an environment that is not restrictive allows children to develop confidence in themselves and to learn to make mature decisions.

The quantity and quality of physical punishment was another aspect of the child-rearing environment related to curiosity. Many researchers have demonstrated that children who are punished less harshly and who are given explanations about their wrong-doings, with an emphasis on autonomous control, tend to be more securely attached to their parents (Aber & Allen, 1987). Sroufe (1985) indicated, for example, that "extreme

forms of maltreatment are predictably associated with marked elevations in anxious attachment" and that "in the case of physical abuse and 'emotional unavailability' there is a marked increase in avoidant attachment" (p. 8). In related research, Osofsky (1995) suggested that exposure to neighborhood violence can cause parents to become overprotective, controlling, and even authoritarian. As a result, these parents tend not to allow their children to have much independence, autonomy, or opportunity for exploration. Also, parents of securely attached children tend to be less rigidly controlling and more responsive, reliable, comforting, available, and sensitive to their children (Ainsworth, 1979; Sroufe, 1985). This increases children's sense of freedom and safety to explore and interact with the environment and to learn to function independently, which in turn affects the quality of autonomous functioning, mastery skills, capacity for affective involvement, and confidence in dealing with peers and other tasks throughout the developmental phases (Arend et al., 1979; Matas, Arend, & Sroufe, 1978; Sroufe, 1985). These conditions are essential for healthy development and adjustment throughout childhood and into later life.

The Authoritative and Authoritarian Parenting Styles

The lack of endorsement of the authoritarian parenting style deserves some additional attention. It is necessary to consider the relationship between parenting styles and SES to understand this finding. The sample used in this study mainly included working, middle-class, moderately educated parents, all of whom had their children in day care. None of the families in this sample were considered low or high SES. Caldwell and Bradley (1984) discussed a longitudinal study done by Hess and Shipman and colleagues

in 1965 and 1968 in which they found that lower-class mothers were "more restrictive, repetitive, and reactive in teaching a cognitive task" (p. 9). These mothers also offered "less praise, although no more criticism[,] than middle class mothers" (p. 9). Although high SES mothers were not included in their study, the logical assumption to be made from the data is that the higher the SES, the more positive and authoritative the mother would be. In the sample in the present study, relationships between parenting and the SES variables demonstrated that parenting styles were indeed related to mothers' educational levels and number of people in the home. Better educated mothers had more strongly authoritative parenting styles. Parents with more people in the home (which was reflective of married status) also had more authoritative parenting styles. Parental attitudes were positively related to fathers' educational levels and marital status. Parenting styles were also closely associated with race, such that white parents endorsed more strongly authoritative parenting styles than did African-American and Asian-American parents. In Memphis and in this sample, there is a socioeconomic division between African-American and white groups. The race difference, therefore, is more likely attributable to SES than to qualities of different racial groups of parents. It makes sense, then, based on Caldwell and Bradley's report, that almost no parents in this sample claimed to be restrictive or authoritarian.

The sample in the present study does not represent the large number of parents who do not put their children in day care, and who might have different perspectives on parenting than those who do use day care. It is possible that low- and high-SES families do not choose to put their children in the day care centers (which were primarily in an area

of Memphis that is mainly lower- to upper-middle class) from which the sample was taken or do not choose center-based day care for their children at all. Perhaps the resources available to the family are influential in determining whether and where a child might be placed. Low-SES parents might not be able to afford day care, or at least the day care centers used in this study, whereas high-SES parents who need assistance with their children might be able to afford more expensive day care centers or even private child care. Replicating this study with a more comprehensive sample would provide useful information about the reasons low- and high-SES subjects do not tend to place their children in certain day care centers, if at all, and would help clarify the importance of extreme SES levels in parenting styles and attitudes.

Another explanation for the lack of authoritarian parenting is that parents who put their children into day care centers might do so out of a desire to have their children interact with other children and be exposed to more stimulation than might be possible at home. This approach toward parenting would, theoretically, fit with attitudes and parenting styles that are more child oriented (Baumrind, 1968). Furthermore, within that group, the parents who agreed to participate might have different theoretical orientations toward parenting than those who chose not to be a part of this study. Parents who have more negative attitudes toward parenting and those who have a more authoritarian style, which involves less encouragement of interaction and less acceptance of individuality and exploration, could have been less interested in being involved in this research and in allowing their children to participate.

A third explanation for the negligible number of parents who endorsed authoritarian parenting styles and negative attitudes toward parenting could be in the structure of the CRPR itself. The statements are designed to tap attitudes and beliefs about child-rearing. It is possible that some of the parents in this sample believe in authoritative parenting, although they do not actually engage in it. It is also possible that the two styles of parenting defined with the subscales developed by Kochanska et al. (1989) do not describe these parents adequately. Baumrind's original typology was developed using observational data. The typology of Kochanska et al., on the other hand, was developed and operationalized using the CRPR, which is a self-report measure. Data gathered with this technique are subject to a social desirability response set and to variability in interpretation of the instructions. For example, some parents could have responded to the items in terms of their actual behaviors and practices, whereas others might have categorized the items based on their beliefs about what appropriate parenting styles are. Indeed, observations of some parents by the researcher led to a suspicion that parental endorsements of authoritative parenting styles and positive attitudes were not entirely accurate. Some of the behaviors a few of the parents engaged in seemed more punitive and restrictive than the parents claimed. It seems that some of the parents gave socially desirable responses, or responses that reflect what they believe they do, rather than reporting what their actual parenting styles and behaviors were. The validity of the authoritative parenting style scale generated by Kochanska et al., then, is questionable. Kochanska et al. demonstrated that parents' scores on the CRPR were related to actual behaviors, but their sample consisted of mothers and their 1 1/2- to 3 1/2-year-old

children. Parenting behaviors necessarily change somewhat as a child develops, especially in terms of the amount and directness of physical enforcement and concrete demands. In addition, children who are older respond differently to parents than when they are very young. A 4-year-old child might be more likely to want more independence and autonomy to play and interact with others than a 2-year-old would want or even be capable of. Parenting behaviors might not have such a direct impact on children's behaviors as children get older because interactions grow more complex as children develop. Also, parents might still claim to have styles and attitudes they believed were important when their children were very young, but the parenting behaviors might actually have changed somewhat, perhaps even without the parents noticing it. It will be necessary to explore parenting styles more fully in the future, using a variety of methodologies, including observations, to try to capture a more accurate picture of parents' styles, beliefs, and attitudes about parenting. It may also be useful to include "defensiveness" or "social desirability" scales along with these CRPR subscales to investigate the validity of parents' responses.

Primary Caregiver and Children's Curiosity

There was a relationship between the gender of the primary caregiver and children's curiosity. The results of these data showed that fathers who were primary caregivers tended to have more curious children than did mothers. One explanation is that mothers and fathers might have different concepts about parenting. Traditionally, the parental role has involved performing many jobs in addition to child-rearing, including grocery shopping, cleaning, doing laundry, and cooking for the family. It has been

considered the woman's job. This sample consisted mostly of middle-class families. Although sharing of responsibilities between husband and wife has increased over the years, the bulk of home-related work still falls upon the woman to complete (Goldner, 1992). Mothers, therefore, might have less time than fathers to play and interact with their children.

One-third of the mothers were divorced and had primary custody of their children. Hetherington and Tryon (1992) reported that "when divorced parents must work outside, maintain households and raise families, they often drop the 'nonessential' but pleasurable, playful activities of parenting" (p. 134). Gasser and Taylor (cited in Hetherington & Tryon, 1992) indicated that middle-class mothers are also less likely than lower-class mothers to distribute household chores among their children. They tend to feel they should do the work themselves. This means that both divorced and married mothers tend to perform most, if not all, the household duties, which necessarily cuts into time that might otherwise be spent with their children. Half of the fathers who were primary caregivers in this sample were divorced, and most divided child time equally with the mothers of their children. This meant that housekeeping jobs could be done when the children were not with their fathers and that more time could be spent in activities together. Furthermore, Hetherington and Tryon indicated that custodial fathers often have more financial and social resources to help them manage daily tasks than do mothers. They reference previous research by Gasser and Taylor, who estimated that custodial fathers paid for assistance with their children about 24 hours per week, compared to 11 hours for mothers. In addition, fathers often have more social support than divorced

mothers. They cite as evidence a father in one of their studies who had "casserole ladies" who cooked for him occasionally. They also tend to share household responsibilities with children more than mothers do, as indicated above.

Perhaps, too, the element of choice in becoming the primary caregiver is related to the enhancement of a child's curiosity. Many mothers become primary caregivers by default. They choose the role because that is what mothers traditionally do (Goldner, 1992). Investigating whether mothers who actively choose to be primary caregivers differ in terms of personality characteristics from those who do not actively choose the role and whether their children show curiosity level differences would enhance understanding of the importance of the gender role in parenting. The fathers who were primary caregivers in this sample were in professions that seem to be conceptually related to the development of curiosity and creativity in their children and that allowed them to be at home more during the day than an office job might. One father, for example, was a student, and he and his daughter enjoyed doing their homework together. Another father was an artist, and his daughter sculpted, painted, and worked on creative projects with him. DeLuccie and Davis (1991) found, too, that fathers tend to be most involved in parenting when their children are of preschool age. Therefore, as a whole, children whose fathers are primary caregivers likely get more attention and spend more time with their fathers than children whose mothers are primary caregivers.

One caution should be made about the differences between mothers and fathers as primary caregivers. Only six primary caregiver-fathers were interviewed in this study. This is certainly not a large enough sample from which to generalize. These results could

easily be idiosyncratic to this particular sample. It is, however, a phenomenon to notice and to explore more fully in a later study.

A Word About Causality

Cohen and Cohen (1983) suggested that path analysis can be used to determine the direction of effects between two or more variables. They stated that "regression invites causal thinking because, unlike correlation, it is asymmetrical, just as are a cause and its effect" (p. 353). Indeed, the data in this sample (although collected at one point in time) invite thoughts about a developmental process: Parenting styles and home environments lead to children's curiosity, which leads to better child development outcomes. However, although a path can be hypothesized from parents' beliefs and attitudes about parenting to the home environment they create for their children and also to their children's curiosity, a reverse path could also be true. Future longitudinal research would provide valuable information about the reciprocality of the relationships among parenting styles, home environments, and children's curiosity.

CHAPTER V

Implications and Conclusions

Based on the results of this study, it appears that parenting styles, attitudes, beliefs, and child-rearing environments are all referents for a super-construct one might call developmental influences that affects the child's entire developmental process. Parenting styles and attitudes are closely related to one another and can be considered to be components of one construct. They are associated with the home environments parents create for their developing youngsters, and both are closely related to children's curiosity. It appears that parental values of providing an environment and materials to encourage and guide their children to be autonomous, active explorers are important in a child's healthy social and intellectual development. Curiosity is a good measure of a child's development because it has been demonstrated to be measurable and quantifiable (Banta, 1970; Henderson, 1984; Henderson & Moore, 1979, 1980) and because it has been demonstrated repeatedly to be a useful construct in representing the strength of children's competencies, adjustment, and ongoing development (Arend et al., 1979; Berlyne, 1960; Harter & Zigler, 1974). As noted above, having an authoritative parenting style contributes to this. A question remains, however, about what aspects of parental beliefs and attitudes other than those specifically related to authoritativeness contribute to curiosity. In future research, the items that were more closely related to curiosity than the

ones that made up the subscales defining parenting style and attitude should be identified to expand upon the knowledge base already developed about children's curiosity.

The modest amount of variance explained using the CRPR suggests a possible methodological limitation to these results. The fact that a self-report measure was used to define parenting styles and attitudes might explain this difficulty. As stated above, self-report measures are subject to social desirability sets and to response inconsistency. Baumrind's parenting styles might actually not be measured as accurately with the CRPR as previously thought. This research was different from other studies about parenting styles in that observational data were not included. In future research, more comprehensive information is needed to determine the validity of the CRPR subscales as measurements of parenting styles and attitudes.

These data capture important relationships at one point in time in the developmental process. None of the constructs measured, however, are static. They are all constantly changing in response to experiences and information gathered by parents and children in interaction with each other. The fact that these relationships were so substantial suggests that it would be of use to explore them further, preferably using a longitudinal design, so that the direction of the variables' influences could be estimated and the relationships could be further elucidated.

Many implications can be made from the research on parenting styles, home environments, and children's curiosity. First, there are a number of points at which to enter the parent-child-environment system in order to effect changes in one area or another, if change is deemed necessary. Changes in any one of the three aspects of the

system might have an effect on the other two. For example, parents who either identifies themselves or are identified as engaging in parenting behaviors that are not conducive to the healthy development of their children, they could be helped to modify their parenting practices. Researchers who have focused on parental contributions to childhood development have moved in this direction, suggesting that intervention programs instituted by agents of change such as the media, social networks, and educational establishments could be used to modify parental child-rearing beliefs and practices (Trickett & Susman, 1988). In addition, many researchers have focused on resilience in children and have found that family and community support mediate between environmental stressors, such as exposure to violence or parental pathology, and healthy development (Goodman & Brumley, 1990; Sameroff & Seifer, 1983; Osofsky, 1995). In particular, children's chances at healthy development might be improved and their potential vulnerability to stress might be reduced by addressing physically and emotionally abusive patterns; children's exposure to violence in the neighborhood, at home, or on television; the need for parents to take care of their own psychological and physical needs adequately; and the need for community support. This could be done through parent-training programs instituted in schools, churches, day care centers, and psychological and other therapeutic facilities and could involve individual and/or family therapy if problems were identified that merited additional support and assistance.

Previous research and the results of this study suggest that children who are less curious, and thus at risk for difficulties in terms of social and intellectual development, might be readily identified in the classroom. Use of curiosity-testing instruments in

conjunction with teachers' observations and perceptions might allow teachers to differentiate between more and less curious children, which might in turn allow for appropriate placement in programs specifically developed to encourage autonomy, exploration, self-motivation, and interest in learning. Programs such as these might be beneficial for all children, in fact. Within classrooms, enriching environments and experiences could be provided, and those children who need extra stimulation and guidance to help them along could be especially encouraged to spend time in the "curiosity centers." In addition, identification of children who are less curious might be used to determine which parents might benefit most from parent-training seminars and classes. All parents might be encouraged to attend programs that are designed to teach the rationale and importance of providing appropriate and adequate stimulation for their children; of encouraging autonomy, self-motivation, and self- control; of communicating rationally and positively with their children; and of using appropriate, competency-enhancing methods of punishment. Although parents who tend to be more authoritarian might not change their attitudes or beliefs, they might be persuaded to change some behaviors to provide an environment that enhances their children's curiosity.

In conclusion, important relationships have been identified among three elements that contribute to a child's healthy development. Positive parenting styles, a stable, secure, stimulating home environment, and high levels of curiosity in children are very important to children's healthy adjustment throughout the developmental process. Although the design only allowed the identification of the relationships at one point in time, it supports the hypothesis that parenting styles, home environments, and children's curiosity are

reciprocally related. Exploring this hypothesis with longitudinal data can help gain more information about the interactions of variables important to the developmental process. These data support previous research about the importance of considering the interaction between parents and children in understanding family functioning. Although a great deal can be learned from studying curiosity alone, much more can be understood by considering the context in which a child develops and the many environmental, physical, and emotional factors that impact the child. Researchers studying the developmental process from infancy through adulthood are encouraged to consider the dynamic interactions among parental, environmental, and child characteristics and to focus on elements that enhance children's resiliency and competency. It is imperative, especially given the complexity of the culture and the many dangers and difficulties children and youth encounter throughout their growing years, that everyone who has any involvement at all in children's growth processes, including psychologists, social workers, teachers, parents, clergy, doctors, and politicians, acknowledge the importance of understanding the complexity of the process and of enhancing strengths in every possible area to ensure the healthy adjustment of the generations to come.

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APPENDICES

APPENDIX A

Demographic Information Form

1. AGE:_____ SUBJECT NO. _____
2. RACE:_____

3. MARITAL STATUS: SINGLE MARRIED SEPARATED DIVORCED OTHER

4. Please list the ages of your children:

AGE		AGE	
1.		4.	
2.		5.	
3.		6.	

6. How many people live in your home? _____

7. Who is head of your household? _____

8. As a parent, do you handle/relate to each of your children in the same way?
YES NO
If no, please describe what instances and situations cause the differences.

9. Do any of your children have special needs/handicaps?
YES NO
If yes, please describe and specify age of child.

10. What is your educational level? _____

What is the child's father's educational level? _____

If remarried, what is the step-father's educational level? _____

11. What is your occupation? _____

What is the child's father's occupation? _____

If remarried, what is the step-father's occupation? _____

12. How would you rank your family's income level?

LOW LOW-AVERAGE AVERAGE HIGH-AVERAGE HIGH

APPENDIX B

HOME Inventory Items--Preschool Form

I. Learning Stimulation

1. Child has toys which teach color, size, shape.
2. Child has three or more puzzles.
3. Child has record player and at least five children's records.
4. Child has toys permitting free expression.
5. Child has toys or games requiring refined movements.
6. Child has toys or games which help teach numbers.
7. Child has at least 10 children's books.
8. At least 10 books are visible in the apartment.
9. Family buys and reads a daily newspaper.
10. Family subscribes to at least one magazine.
11. Child is encouraged to learn shapes.

II. Language Stimulation

12. Child has toys that help teach the names of animals.
13. Child is encouraged to learn the alphabet.
14. Parent teaches child simple verbal manners (please, thank you).
15. Mother uses correct grammar and pronunciation.
16. Parent encourages child to talk and takes time to listen.
17. Parent's voice conveys positive feeling to child.
18. Child is permitted choice in breakfast or lunch menu.

III. Physical Environment

19. Building appears safe.

20. Outside play environment appears safe.

21. Interior of apartment not dark or perceptually monotonous.

22. Neighborhood is esthetically pleasing.

23. House has 100 square feet of living space per person.

24. Rooms are not overcrowded with furniture.

25. House is reasonably clean and minimally cluttered.

IV. Warmth and Acceptance

26. Parent holds child close 10-15 minutes per day.

27. Parent converses with child at least twice during visit.

28. Parent answers child's questions or requests verbally.

29. Parent usually responds verbally to child's speech.

30. Parent praises child' qualities twice during visit.

31. Parent caresses, kisses, or cuddles child during visit.

32. Parent helps child demonstrate some achievement during visit.

V. Academic Stimulation

33. Child is encouraged to learn colors.

34. Child is encouraged to learn patterned speech (songs, etc.).

35. Child is encouraged to learn spatial relationships.

36. Child is encouraged to learn numbers.

37. Child is encouraged to learn to read a few words.

VI. Modeling

38. Some delay of food gratification is expected.

39. TV is used judiciously.

40. Parent introduces visitor to child.

41. Child can express negative feelings without reprisal.

42. Child can hit parent without harsh reprisal.

VII. Variety in Experience

43. Child has real or toy musical instrument.

44. Child is taken on outing by family member at least every other week.

45. Child has been on trip more than fifty miles during last year.

46. Child has been taken to a museum during past year.

47. Parent encourages child to put away toys without help.

48. Parent uses complex sentence structure and vocabulary.

49. Child's are work is displayed some place in house.

50. Child eats at least one meal per day with mother and father.

51. Parent lets child choose some foods or brands at grocery store.

VIII. Acceptance

52. Parent does not scold or derogate child more than once.

53. Parent does not use physical restraint during visit.

54. Parent neither slaps nor spanks child during visit.

55. No more than one instance of physical punishment during past week.

APPENDIX C

Items in Block's Child-Rearing Practices Report--

91-item First-Person Form

1. I respect my child's opinions and encourage him to express them.
2. I encourage my child always to do his best.
3. I put the wishes of my mate before the wishes of my child.
4. I help my child when he is being teased by his friends.
5. I often feel angry with my child.
6. If my child gets into trouble, I expect him to handle the problems mostly by himself.
7. I punish my child by putting him off somewhere by himself for a while.
8. I watch closely what my child eats and when he eats.
9. I don't think young children of different sexes should be allowed to see each other naked.
10. I wish my husband were more interested in our children.
11. I feel a child should be given comfort and understanding when he is scared or upset.
12. I try to keep my child away from children who have different ideas or values from our own.
13. I try to stop my child from playing rough games or doing things where he might get hurt.
14. I believe physical punishment is the best way of disciplining.
15. I believe that a child should be seen and not heard.
16. I sometimes forget the promises I have made to my child.
17. I think it is good practice for a child to perform in front of others.
18. I express affection by hugging, kissing, and holding my child.
19. I find some of my greatest satisfactions in my child.

20. I prefer that my child not try things if there is a chance that he will fail.
21. I encourage my child to wonder and think about life.
22. I usually take into account my child's preferences in making plans for the family.
23. I wish children did not have to grow up so fast.
24. I feel a child should have time to think, daydream, and even loaf sometimes.
25. I find it difficult to punish my child.
26. I let my child make many decisions for himself.
27. I do not allow my child to say bad things about his teacher.
28. I worry about the bad and sad things that can happen to a child as he grows up.
29. I teach my child that in one way or another punishment will find her when she is bad.
30. I do not blame my child for whatever happens if others ask for trouble.
31. I do not allow my child to get angry with me.
32. I feel my child is a bit of a disappointment to me.
33. I expect a great deal of my child.
34. I am easy going and relaxed with my child.
35. I give up some of own interests because of my child.
36. I tend to spoil my children.
37. I have never caught my child lying.
38. I talk it over and reason with my child when he misbehaves.
39. I trust my child to behave as he should, even when I am not with him.
40. I joke and play with my child.
41. I give my child a good many duties and family responsibilities.
42. My child and I have warm, intimate times together.
43. I have strict, well-established rules for my child.
44. I think you have to let a child take many chances as he grows up and tries new things.
45. I encourage my child to be curious, to explore and to question things.

46. I sometimes talk about supernatural forces and beings in explaining things to my child.
47. I expect my child to be grateful and appreciate all the advantages he has.
48. I sometimes feel that I am too involved with my child.
49. I believe in toilet training a child as soon as possible.
50. I threaten punishment more often than I actually give in.
51. I believe in praising a child when she is good and think it gets better results than punishing her when she is bad.
52. I make sure my child knows that I appreciate what he tries or accomplishes.
53. I encourage my child to talk about his troubles.
54. I believe children should not have secrets from parents.
55. I teach my child to keep control of his feelings at all times.
56. I try to keep my child from fighting.
57. I dread answering my child's questions about sex.
58. When I am angry with my child, I let him know it.
59. I think a child should be encouraged to do things better than others.
60. I punish my child by taking away a privilege he otherwise would have had.
61. I give my child extra privileges when he behaves well.
62. I enjoy a house full of children.
63. I believe that too much affection and tenderness can harm or weaken a child.
64. I believe scolding and criticism make my child improve.
65. I believe my child should be aware of how much I sacrifice for him.
66. I sometimes tease and make fun of my child.
67. I teach my child that he is responsible for what happens to him.
68. I worry about the health of my child.
69. There is a good deal of conflict between my child and me.
70. I do not allow my child to question my decisions.

71. I feel it is good for a child to play competitive games.
72. I like to have some time for myself, away from my child.
73. I let my child know how ashamed and disappointed I am when he misbehaves.
74. I want my child to make a good impression on others.
75. I encourage my child to be independent of me.
76. I make sure I know where my child is and what he is doing.
77. I find it interesting and educational to be with my child for long periods of time.
78. I think a child should be weaned from the breast or bottle as soon as possible.
79. I instruct my child not to get dirty while he is playing.
80. I don't got out if I have to leave my child with anyone besides a member of the family.
81. I think jealousy and quarreling between brothers and sisters should be punished.
82. I think children must learn early not to cry.
83. I control my child by warning him about the bad things that can happen to him.
84. I think it is best if the mother rather than the father, is the one with the most authority over the children.
85. I don't want my child to be looked upon as different from others.
86. I don't think children should be given sexual information before they can understand everything.
87. I believe it is very important for a child to play outside and get plenty of fresh air.
88. I get pleasure from seeing my child eating well and enjoying his food.
89. I don't allow my child to tease and play tricks on others.
90. I think it is wrong to insist that young boys and girls have different kinds of toys and play different sorts of games.
91. I believe that it is unwise to let children play a lot by themselves without supervision from grown-ups.

APPENDIX D

Items in Authoritarian, Authoritative, Negative Affect, and Enjoyment of Parental Role Subscales

Authoritarian Subscale

14. I believe physical punishment is the best way of disciplining.
15. I believe that a child should be seen and not heard.
27. I do not allow my child to say bad things about his teacher.
29. I teach my child that in one way or another punishment will find her when she is bad.
31. I do not allow my child to get angry with me.
43. I have strict, well-established rules for my child.
54. I believe children should not have secrets from parents.
55. I teach my child to keep control of his feelings at all times.
64. I believe scolding and criticism make my child improve.
70. I do not allow my child to question my decisions.
76. I make sure I know where my child is and what he is doing.
83. I control my child by warning him about the bad things that can happen to him.
91. I believe that it is unwise to let children play a lot by themselves without supervision from grown-ups.

Authoritative Subscale

1. I respect my child's opinions and encourage him to express them.
6. If my child gets into trouble, I expect him to handle the problems mostly by himself.
11. I feel a child should be given comfort and understanding when he is scared or upset.
18. I express affection by hugging, kissing, and holding my child.
22. I usually take into account my child's preferences in making plans for the family.

26. I let my child make many decisions for himself.
34. I am easy going and relaxed with my child.
38. I talk it over and reason with my child when he misbehaves.
40. I joke and play with my child.
41. I give my child a good many duties and family responsibilities.
42. My child and I have warm, intimate times together.
51. I believe in praising a child when she is good and think it gets better results than punishing her when she is bad.
52. I make sure my child knows that I appreciate what he tries or accomplishes.
58. When I am angry with my child, I let him know it.
67. I teach my child that he is responsible for what happens to him.
75. I encourage my child to be independent of me.

Negative Affect Subscale

5. I often feel angry with my child.
32. I feel my child is a bit of a disappointment to me.
69. There is a good deal of conflict between my child and me.

Enjoyment of Parental Role

19. I find some of my greatest satisfactions in my child.
62. I enjoy a house full of children.
77. I find it interesting and educational to be with my child for long periods of time.

APPENDIX E

Curiosity Score Forms

PREFERENCE FOR COMPLEXITY

1.	1=2 2=1 3=3 4=4	6.	1=4 2=3 3=2 4=1	11.	1=3 2=4 3=1 4=2	16.	1=3 2=2 3=4 4=1
2.	1=1 2=2 3=3 4=4	7.	1=2 2=3 3=4 4=1	12.	1=4 2=1 3=3 4=2	17.	1=1 2=4 3=3 4=2
3.	1=1 2=3 3=4 4=2	8.	1=3 2=1 3=2 4=4	13.	1=2 2=4 3=3 4=1	18.	1=3 2=4 3=1 4=2
4.	1=2 2=3 3=1 4=4	9.	1=3 2=2 3=1 4=4	14.	1=4 2=2 3=3 4=1	19.	1=3 2=1 3=4 4=2
5.	1=4 2=2 3=1 4=3	10.	1=1 2=4 3=2 4=3	15.	1=1 2=3 3=2 4=4	20.	1=4 2=1 3=2 4=3

TOTAL _____

PREFERENCE FOR UNKNOWN

#	SAME OR DIFFERENT	#	SAME OR DIFFERENT	#	SAME OR DIFFERENT	#	SAME OR DIFFERENT
1.		6.		11.		16.	
2.		7.		12.		17.	
3.		8.		13.		18.	
4.		9.		14.		19.	
5.		10.		15.		20.	

TOTAL _____

DRAWER BOX

SUBJECT NUMBER _____

SAMPLE SCORE BOX

open dr.	toy out	play toy
?s	and	com.
time out	time in	or-der

TOTAL DRAWERS OPENED _____ TOTAL TOYS OUT _____ TOTAL PLAYS _____

TOTAL QUESTIONS _____ TOTAL COMMENTS _____ TOTAL TIME WITH TOYS _____

MEDIAN TIME WITH TOYS (minimum 3" per toy out) _____ SEARCHES _____

CURIOSITY BOX SUBJECT NUMBER _____

TIME	MANIP. EXPLOR.	TACT. EXPLOR.	VISUAL EXPLOR.	MOVE.- SUBJECT	MOVE.- BOX	QUEST. &/OR COMMENT	FANTASY	QUEST. &/OR COMMENT	FANTASY
.50									
1.00									
1.50									
2.00									
PROMPT									
2.50									
3.00									
TERM									
3.50									
4.00									
4.50									
5.00									
TOTAL									

CURIOSITY VERBALIZATION TOTAL _____
FANTASY VERBALIZATION TOTAL _____
TOTAL (columns 2-6) _____

APPENDIX F

Tables

Table 1

Factor Components and Loadings for Curiosity Score

Component	Factor I	Factor II	Factor III
Total play	.81	.11	.11
Verbalization	.69	.14	.02
Total time	.66	-.05	-.24
Tactual exploration	.37	-.22	.30
Manipulative exploration	.25	.82	-.07
Subject movement	-.25	.77	-.04
Visual exploration	.10	.54	.20
Search	.17	.06	.85
Unknown preference	.04	.02	-.53
Box movement	.19	-.12	-.27

Note. Factor I = Depth of Exploration; Factor II = Breadth of Exploration; Factor III = Interest/Comfort with Novel Stimuli.

Table 2

Correlation Matrix Among Dependent and Independent Variables

Variable	1	2	3	4	5
1. Curiosity	1.00				
2. HOME Inventory	.22*	1.00			
3. Parenting style	-.19	.24*	1.00		
4. Attitude	-.09	.09	.27**	1.00	
5. Primary caregiver	.25*	.04	.03	.14	1.00
6. HOME1	.22*	----	.20*	.20*	-.09
7. HOME2	.05	----	-.04	.25*	-.26**
8. HOME3	.01	----	.09	.28**	-.35***
9. HOME4	.07	----	.04	-.04	-.03
10. HOME5	.11	----	.01	.05	-.03
11. HOME6	.21*	----	.28**	.18	-.07
12. HOME7	.05	----	.22*	.30**	-.17
13. HOME8	.23*	----	.34***	.39***	.02

Note. Dashes indicate that the correlations between HOME Inventory and HOME1 through HOME8 are not included. The correlations among HOME1 through HOME8 are

(table continues)

not reported because they are not relevant here. N = 74. HOME1 = Stimulation through toys, games, reading materials; HOME2 = Language stimulation; HOME3 = Physical environment; HOME4 = Pride, affection, and warmth; HOME5 = Stimulation of academic behavior; HOME6 = Modeling and encouraging of social maturity; HOME7 = Variety of stimulation; HOME8 = Physical punishment.

*p < .05. **p < .01. ***p < .001.

Table 3

Unique Variance between Independent Variables and Curiosity

Independent variable	Unique variance
Primary caregiver	sr^2 = .07**
Parenting style and Attitude	sr^2 = .07**
Parenting style	sr^2 = .05*
Attitude	sr^2 = .01
HOME Inventory	sr^2 = .07**
HOME1	sr^2 = .07**
HOME6	sr^2 = .05**
HOME8	sr^2 = .06**

Note. R^2 = .18 with Parenting style, Attitude, and HOME Inventory. R^2 = .295 with Parenting style, Attitude, HOME1, HOME6, and HOME8. HOME1 = Stimulation through toys, games, reading materials; HOME6 = Modeling and encouraging of social maturity; HOME8 = Physical punishment.

*p < .05. **p < .01.

Table 4

Indirect Effects of Independent Variables on Curiosity

Independent variable	Indirect effect
Primary caregiver	
Through Parenting style and Attitude	sr^2 = .0001
Through Parenting style	sr^2 = .0005
Through Attitude	sr^2 = .0000
Through HOME Inventory	sr^2 = .0004
Parenting style	
Through HOME Inventory	sr^2 = .003
Attitude	
Through HOME Inventory	sr^2 = .006

Note. No effects were significant.

APPENDIX G

Figures

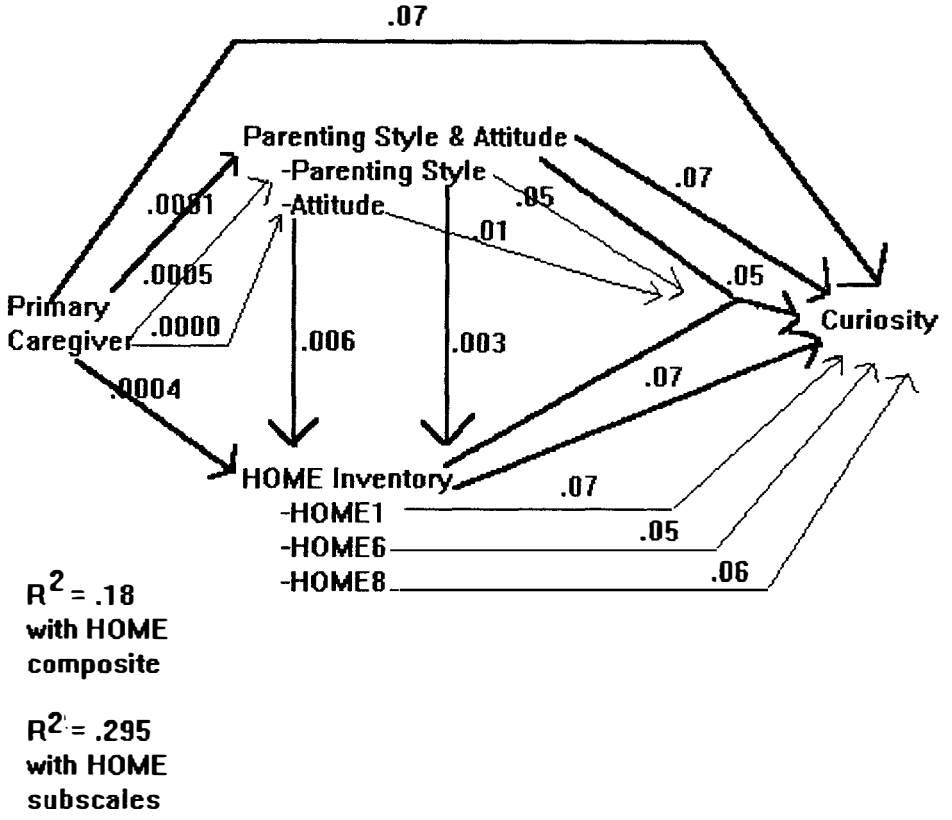

Figure 1. Complete model with direct and indirect effects of independent variables and Curiosity. Effects are shown as squared semipartial correlations. HOME1 = Stimulation through toys, games, reading materials; HOME6 = Modeling and encouraging of social maturity; HOME8 = Physical punishment.

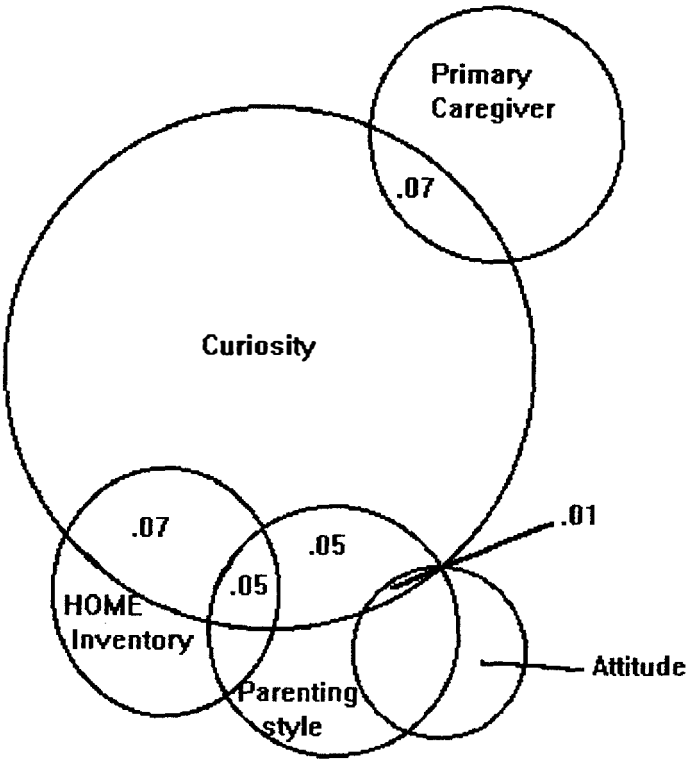

Figure 2. Venn diagram of relationships among independent variables and Curiosity. Relationships are shown as squared semipartial correlations.

VITA

Amy Baldwin Crockett was born in Manchester, Tennessee, on October 21, 1966. She attended Rhodes College in Memphis, Tennessee, and in May 1989, she was awarded the degree of Bachelor of Arts in Psychology, cum laude. She entered the clinical psychology program of The University of Tennessee, Knoxville, in August 1990, and in May 1993, she was awarded the Master of Arts degree. She completed her predoctoral internship in clinical psychology at the Veterans' Affairs Medical Center in Memphis, Tennessee, in August, 1995. In December 1995, she was awarded the degree of Doctor of Philosophy by The University of Tennessee, Knoxville.

She has recently accepted a position as a clinical psychologist at Genesis Treatment Center in Memphis, Tennessee. She will be assisting in the adult partial hospitalization program, participating in program development and marketing, conducting educational and process-oriented groups for adults and families, and seeing individuals on an out-patient basis for therapy.